

Notice of Allowability

Application No.

09/926,173

Examiner

Wesley D Markham

Applicant(s)

MUNAKATA, HIDEKI

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the attached examiner's amendment.
2. ☒ The allowed claim(s) is/are 3,5-10 and 12.
3. ☒ The drawings filed on 9/18/01 and 4/27/04 (5 replace. sheets) are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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EXAMINER'S AMENDMENT / ALLOWANCE

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Murat Ozgu, attorney for the applicant, on 2/2/2005.

IN THE CLAIMS:

The claims have been amended as follows. The following listing of claims replaces all prior versions and listings of the claims in the application.

1. (Canceled)
2. (Canceled)
3. (Currently amended) A process for preventing dust generation of a wafer storage case comprising the steps of:

coating a surface of the wafer storage case of synthetic resin housing wafers with a coating agent;

drying the wafer storage case coated with the coating agent to cause a coating layer of the coating agent to be firmly adsorbed or attached to the synthetic resin surface;

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cleaning the dried wafer storage case and removing particles on a surface of a coating layer using pure water such that the coating layer of the coating agent remains across the surface of the wafer storage case; and

drying the cleaned wafer storage case,

wherein dust generation from the surface of the wafer storage case is prevented by the coating layer of the coating agent.

4. (Canceled)

5. (Currently amended) The process for preventing dust generation of a wafer storage case according to claim ~~[[4]]~~3, wherein the pure water used in the step of cleaning with the pure water such that the coating layer of the coating agent remains across the surface of the wafer storage case is pure water with a low specific resistance.

6. (Original) The process for preventing dust generation of a wafer storage case according to claim 5, wherein the pure water with a low specific resistance has a specific resistance of 10 MΩ·cm or less.

7. (Currently amended) The process for preventing dust generation of a wafer storage case according to ~~any of claims 3 to 6~~ claim 3, 5, or 6, wherein by immersing

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the wafer storage case in an aqueous solution of a coating agent, the surface of the wafer storage case is coated with the coating agent.

8. (Currently amended) The process for preventing dust generation of a wafer storage case according to ~~any of claims 3 to 6~~ claim 3, 5, or 6, wherein the wafer storage case to be coated with the coating agent is a cleaned wafer storage case.

9. (Original) The process for preventing dust generation of a wafer storage case according to claim 8, wherein the cleaned wafer storage case is a wafer storage case cleaned with surfactant cleaning and pure water cleaning.

10. (Currently amended) The process for preventing dust generation of a wafer storage case according to ~~any of claims 3 to 6~~ claim 3, 5, or 6, wherein the coating agent is a surfactant.

11. (Canceled)

12. (Currently amended) A wafer storing method comprising the steps of:

preparing wafers; and

housing the wafers in a wafer storage case treated by a process for preventing dust generation of a wafer storage case according to ~~any of claims 3 to 6~~ claim 3, 5, or

6.

Reasons for Allowance

Claims 3, 5 – 10, and 12 are allowed.

The following is an examiner's statement of reasons for allowance: Independent Claim 3 (from which Claims 5 – 10 and 12 depend) is drawn to a process for preventing dust generation of a synthetic resin wafer storage case by coating a surface of the synthetic resin case with a coating agent, drying the coated wafer storage case so that a coating layer of the coating agent is firmly adsorbed or attached to the synthetic resin surface, cleaning the dried case using pure water in a manner such that the coating layer of the coating agent remains across the surface of the case, and drying the cleaned case. The coating layer of the coating agent prevents dust generation from the wafer storage case surface. A summary of the closest prior art of record follows. The admitted prior art (AAPA) teaches a synthetic resin wafer storage case for housing wafers, wherein a surface of the wafer storage case is coated with a coating layer of a coating agent to prevent dust generation from the surface (Figure 12; page 2, lines 3 – 18; page 3, lines 11 – 20; page 4, lines 4 – 6; page 5, lines 3 – 6; and page 14, lines 18 – 19 of the applicant's specification). Specifically, the prior art cleaning method for a synthetic resin wafer storage case shown in Figure 12 (i.e., surfactant cleaning, two steps of pure water cleaning, and clean oven drying) leaves a dust generation-preventing coating layer of the surfactant (i.e., a "coating agent") on the surface of the wafer storage case prior to the cleaning and drying steps (see, for example, page 5, lines 8 – 13 of the applicant's specification). However, the AAPA teaches that the

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surfactant coating layer formed on the surface of the storage case is removed during the subsequent pure water cleaning steps and, therefore, does not teach or suggest drying the coated wafer storage case so that a coating layer of the coating agent is firmly adsorbed or attached to the synthetic resin surface and cleaning the dried case using pure water in a manner such that the coating layer of the coating agent remains across the surface of the case, as required by the claims of the instant application.

Fujitsu Ltd. (JP 09-122610 A) teaches an analogous process for cleaning and drying various articles, the process comprising (1) immersing the article to be cleaned in an aqueous, water-repellent surfactant solution to replace dust on the surface of the article with the surfactant, (2) hanging the article and carrying it to one or two pure water washing / cleaning stations, (3) using the pure water washing to remove excess surfactant from the surface of the article, and then (4) drying the article (Abstract, Figures 1, 2, and 22, and paragraphs [0054] – [0060], [0107], and [0108]). The process of Fujitsu Ltd, including the pure water washing / cleaning step(s), is carried out to insure that at least one molecular layer of the water-repellent surfactant sticks to and remains on the surface of the article (Abstract, paragraphs [0007], [0008], [0012], [0013], [0028], [0030], [0037], [0044], and [0060]). However, Fujitsu Ltd., alone or in combination, does not teach or suggest drying the coated wafer storage case so that a coating layer of the coating agent (i.e., surfactant) is firmly adsorbed or attached to the surface of the case between the coating and pure water cleaning steps, as required by the claims of the instant application. Therefore, independent Claim 3 is allowed. Since Claims 5 – 10 and 12 depend from Claim 3, these claims are also allowed.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

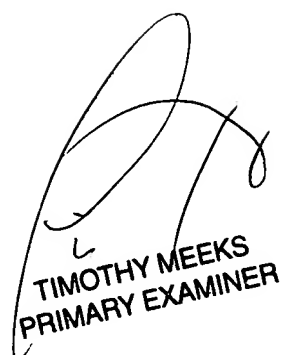
Wesley D Markham
Examiner
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A handwritten signature consisting of the letters 'WDM' followed by a stylized, wavy line.A handwritten signature in black ink, appearing to be 'T. Meeks', written over a printed name and title.

TIMOTHY MEEKS
PRIMARY EXAMINER